



# UNITED STATES PATENT AND TRADEMARK OFFICE

HA

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/812,920	03/31/2004	Satoru Kikuchi	04044	5700
23338	7590	09/25/2006	EXAMINER	
DENNISON, SCHULTZ & MACDONALD 1727 KING STREET SUITE 105 ALEXANDRIA, VA 22314			BENNETT, ZAHRA I	
			ART UNIT	PAPER NUMBER
			2875	

DATE MAILED: 09/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/812,920	<b>Applicant(s)</b> KIKUCHI ET AL.	
	<b>Examiner</b> Zahra Bennett	<b>Art Unit</b> 2875	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11 July 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1 and 4-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 4-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>9/6/2006</u>  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on August 4, 2006 has been entered.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by Lin (US Publication 2004/0252509).

With respect to claim 1, Lin teaches a light emitting diode device comprising:

a circuit substrate (Figure 8: 32);

a lower reflection film (71) provided on an upper surface of the circuit substrate;

Art Unit: 2875

an LED (51) mounted on the upper surface of the circuit substrate (Column 18, lines 36-39);

a resin layer (4) encapsulating the LED (51) and the lower reflecting film ([0038] lines 10-15);

an upper reflection layer (6, above 51) formed by metal ([0030] lines 4-6) being disposed opposite the LED, and being formed into a thin film (Figure 3) to transmit a portion of light rays in a forward direction and to reflect another portion of the light rays emitted by the LED ([0012] lines 8-21)

wherein the light rays reflected by the upper reflection layer (Figure 8: 6, above 51) are further reflected by the lower reflection film (71) on the circuit substrate, and the light rays reflected by the lower reflection film are discharged in the forward direction passing through the upper reflection layer and through side walls of the resin layer ([0027] lines 15-22) to be diffused ([0035] lines 1-7).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lin as applied to claim 1 above, and further in view of Ohtsuki (US Patent 6,036,328).

With respect to claim 4, Lin does not teach a transparent holding plate. Ohtsuki teaches the upper reflection layer (Figures 22(a-b): 95) comprising of a transparent holding plate (Figures 23(a-c): 50), and an upper reflection film (95) provided between the upper surface of the resin layer (80) and the underside of the holding plate (50). It would have been obvious to one of ordinary skill at the time of the invention to include a holding plate on the device of Lin for the benefit of directing light which is exiting the device, as taught by Ohtsuki.

With respect to claim 5, Lin teaches that the upper reflection is formed by metal but does not teach the upper reflection film being formed by metal plating. Ohtsuki teaches that the upper reflection film is formed by metal plating (Column 21, lines 43-49). It would have been obvious to one of ordinary skill at the time of the invention to use metal plating on the upper reflection film of Lin for the benefit of creating a highly reflective surface, as taught by Ohtsuki.

With respect to claim 6, Lin does not teach that the upper reflection layer has an area smaller than the resin layer. Ohtsuki further teaches that the upper reflection layer (Figure 23 (b): 95) has an area smaller than an area of the resin layer (50). It would have been obvious to one of ordinary skill at the time of the invention to make the area of the upper reflection layer smaller than the area of the resin layer. One would have been motivated to modify the device of Lin for the benefit of reflecting all of the light exiting the resin layer, as taught by Ohtsuki.

***Response to Arguments***

Applicant's arguments with respect to claim 1 have been considered. Regarding applicant's argument that Lin includes a multi-layer dielectric unit (Figure 2: 61) where the total transparency will be very low. Lin teaches an upper reflection layer which is capable of transmitting light. The Examiner has concluded that existence of these dielectric layers does not hinder the functionality of the device, light is still able to transmit through the layers. Also, the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

***Conclusion***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zahra Bennett whose telephone number is 571-272-2267. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Renee Luebke can be reached on 571-272-2009. The fax phone number for the organization where this application or proceeding is assigned is 571-273-2267.

Art Unit: 2875

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ZB



RENEE LUEBKE  
PRIMARY EXAMINER